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2 1. A mechanical apparatus operable for rapid replacement of one or more RF
3 fixture customizations, comprising:

4

5 an RF enclosure;

6

7 a drawer base plate, coupled to the RF enclosure;

8

9 a nest stationary base plate, coupled to the drawer base plate, said nest
10 stationary base plate further comprising:

11

12 one or more o-rings, coupled to one or more holes located in
13 stationary base plate and coupled to one or more corresponding
14 holes in the drawer base plate;

15

16 one or more fasteners, coupled to the nest stationary base plate in
17 one or more locations and coupled to the drawer base plate in the
18 one or more locations;

19

1 one or more electrical connectors, coupled to the nest stationary base
2 plate, said one or more electrical connectors operable to carry electrical
3 signals;

4

5 one or more pneumatic actuators, coupled to the nest stationary base
6 plate, said one or more pneumatic actuators operable by pressurized gas
7 provided to one or more corresponding nests through the one or more o-
8 rings;

9

10 a stationary base assembly, coupled to the nest stationary base plate;

11

12 one or more lower nest assemblies, coupled to the stationary base
13 assembly, said one or more lower nest assemblies operable to support the
14 one or more corresponding nests; and

15

16 one or more upper nest assemblies, coupled to the one or more
17 corresponding lower nest assemblies, said one or more upper nest
18 assemblies operable to support the one or more corresponding nests.

19

20 2. The mechanical apparatus of claim 1, wherein the drawer base plate
21 comprises one or more guide plates, said guide plates operable to enable the

1 nest stationary base plate to be oriented with respect to the drawer base
2 plate.

3

4 3. The mechanical apparatus of claim 1, wherein the one or more o-rings are
5 placed on two straight lines along the long axis of the drawer base plate.

6

7 4. The mechanical apparatus of claim 1, wherein the one or more pneumatic
8 fittings are place below the one or more o-ring locations.

9

10 5. The mechanical apparatus of claim 1, wherein the fastener tightens the
11 drawer plate to the stationary base plate.

12

13 6. The mechanical apparatus of claim 1, wherein the one or more lower nest
14 assembly and the upper nest assembly contain one or more alignment
15 features suitable for aligning a lower nest assembly with the corresponding
16 upper nest assembly.

17

18 7. The mechanical apparatus of claim 1, wherein the stationary base assembly
19 further comprises:

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21 a base probe plate;

1

2 one or more guide shafts, coupled to the base probe plate;

3

4 one or more locating cones for upper nest assembly alignment, coupled to
5 the guide shaft;

6

7 one or more down stops, coupled to the one or more guide shafts and
8 coupled to the base probe plate from above;

9

10 a left standoff, coupled to the base probe plate from below;

11

12 a right standoff, coupled to the base probe plate from above;

13

14 one or more pneumatic fittings, coupled to one of the left standoff and the
15 right standoff; and

16

17 a PCA mount, coupled to the right standoff and coupled to the left
18 standoff.

19

20 8. The mechanical apparatus of claim 1, wherein the lower nest assembly
21 further comprises:

1

2 a left bearing mount, coupled to the upper nest assembly;

3

4 a right bearing mount, coupled to the upper nest assembly;

5

6 DUT support plate, coupled to the stationary base assembly, coupled to
7 the right bearing mount, and coupled to the left bearing mount; and

8

9 a pneumatic air supply assembly, coupled to the DUT support plate, said
10 pneumatic air supply assembly operable to supply pressurized air to a
11 nest.

12

13 9. The mechanical apparatus of claim 1, wherein the upper nest assembly
14 further comprises:

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16 an upper nest plate, coupled to the lower nest assembly;

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18 a cross bar, coupled to the upper nest plate; and

19

20 one or more screws, coupled to the cross bar, said one or more screws
21 operable to couple the upper nest assembly to the lower nest assembly.

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2 10. A mechanical apparatus operable for rapid replacement of one or more RF
3 fixture customizations, further comprising:

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5 an RF enclosure;

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7 a drawer base plate, coupled to the RF enclosure;

8

9 a nest stationary base plate, coupled to the drawer base plate;

10

11 a stationary base assembly, coupled to the nest stationary base plate;

12

13 one or more lower nest assemblies, coupled to the stationary base
14 assembly, said one or more lower nest assemblies operable to provide
15 support from below to the one or more corresponding nests; and

16

17 one or more upper nest assemblies, coupled to the one or more
18 corresponding lower nest assemblies, said one or more upper nest
19 assemblies operable to provide support from above to the one or more
20 corresponding nests.

21

1 11. The mechanical apparatus of claim 10, wherein the drawer base plate
2 comprises one or more guide plates, said guide plates operable to enable the
3 nest stationary base plate to be oriented with respect to the drawer base
4 plate.

5

6 12. The mechanical apparatus of claim 10, wherein the one or more lower nest
7 assembly and the upper nest assembly contain one or more alignment
8 features suitable for aligning a lower nest assembly with the corresponding
9 upper nest assembly.

10

11 13. The mechanical apparatus of claim 10, wherein the stationary base
12 assembly further comprises:

13

14 a base probe plate;

15

16 one or more guide shafts, coupled to the base probe plate;

17

18 one or more locating cones for upper nest assembly alignment, coupled to
19 the guide shaft;

20

1 one or more down stops, coupled to the one or more guide shafts and
2 coupled to the base probe plate from above;

3

4 a left standoff, coupled to the base probe plate from below;

5

6 a right standoff, coupled to the base probe plate from above;

7

8 one or more pneumatic fittings, coupled to one of the left standoff and the
9 right standoff; and

10

11 a PCA mount, coupled to the right standoff and coupled to the left
12 standoff.

13

14 14. The mechanical apparatus of claim 10, wherein the lower nest assembly
15 further comprises:

16

17 a left bearing mount, coupled to the upper nest assembly;

18

19 a right bearing mount, coupled to the upper nest assembly;

20

1 DUT support plate, coupled to the stationary base assembly, coupled to
2 the right bearing mount, and coupled to the left bearing mount; and

3

4 a pneumatic air supply assembly, coupled to the DUT support plate, said
5 pneumatic air supply assembly operable to supply pressurized air to a
6 nest.

7

8 15. The mechanical apparatus of claim 10, wherein the upper nest assembly
9 further comprises:

10

11 an upper nest plate, coupled to the lower nest assembly;

12

13 a cross bar, coupled to the upper nest plate; and

14

15 one or more screws, coupled to the cross bar, said one or more screws
16 operable to couple the upper nest assembly to the lower nest assembly.

17

18 16. A mechanical apparatus operable for rapid replacement of one or more RF
19 fixture customizations, further comprising:

20

21 an RF enclosure;

1

2 a drawer base plate, coupled to the RF enclosure;

3

4 a nest stationary base plate, coupled to the drawer base plate, said nest
5 stationary base plate further comprising:

6

7 one or more o-rings, coupled to one or more holes located in
8 stationary base plate and coupled to one or more corresponding
9 holes in the drawer base plate; and

10

11 one or more fasteners, coupled to the nest stationary base plate in
12 one or more locations and coupled to the drawer base plate in the
13 one or more locations.

14

15 17. The mechanical apparatus of claim 16, wherein the drawer base plate
16 comprises one or more guide plates, said guide plates operable to enable the
17 nest stationary base plate to be oriented with respect to the drawer base
18 plate.

19

20 18. The mechanical apparatus of claim 16, wherein the one or more o-rings are
21 placed on two straight lines along the long axis of the drawer base plate.

1

2 19. The mechanical apparatus of claim 16, wherein the one or more pneumatic
3 fittings are place below the one or more o-ring locations.

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5 20. The mechanical apparatus of claim 16, wherein the fastener tightens the
6 drawer plate to the stationary base plate.

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